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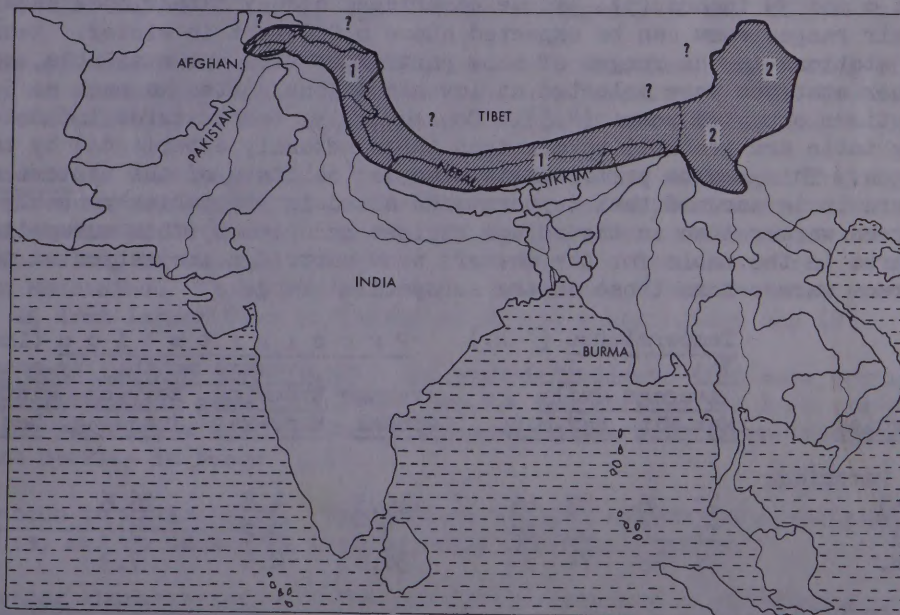
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# The Snow Partridges



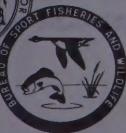
The snow partridges (Lerwa lerwa) are represented by one species and two subspecies (9). These birds are tolerant of high elevations, thriving generally from 8,000 feet to 18,000 feet in the alpine zone, extending from Afghanistan through northwest Pakistan, India, Nepal, Sikkim, Bhutan, Northeastern Indian Frontier, and southern Tibet into western China. Their habitat is moderately vegetated, with brush and ferns but without forests. Snow partridges are considered to be one of the finest of game birds for the table (2). They might be appropriate for our alpine zones that lack suitable populations of ptarmigan or blue grouse, or as a supplemental species.

Identification: Closely barred black and white above; largely deep chestnut below with broad whitish streaks on abdomen and flanks. Under tail coverts chestnut, streaked with black and tipped with white. Both sexes are alike externally, but the male has a well developed spur and sometimes a smaller second one. Length 15 inches; weight 1 lb. to 22 ozs. (one weighed 25 ozs.) Eyes brownish red or blood red; bill bright coral red; legs and feet orange red to deep red, deepest



1. Western Snow Partridge  
(Lerwa l. lerwa)

2. Eastern Snow Partridge  
(Lerwa l. major)



UNITED STATES DEPARTMENT OF THE INTERIOR  
Fish and Wildlife Service  
Bureau of Sport Fisheries and Wildlife  
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and brightest in the breeding season. Legs short and feathered for over half their length in front (1).

Habitat: An alpine species, the snow partridge has been found in the high elevations of the Himalayan mountains, and in eastern China it ranges from about 7,000 feet to over 17,000 feet. They do not occur on the broad open plains of Central Tibet, although they are common in Sikkim and the adjacent southern Himalayas. Summer breeding ranges are from 10,000 feet to 18,000 feet. With heavy snowfall, the birds generally move downward as far as 8,000 feet. These partridges are nonmigratory and sedentary except they may move altitudinally during winter and the breeding season. They are found from above the forest line to the snow line on steep rocky ground or pastures covered with grasses, lichens, ferns and rhododendron bushes. In one instance in the Ladakh area of the Indian Himalayas, snow partridges were found mostly in the brushy areas along streams and lower valleys (6). As distinguished from the habitat of snowcocks (Tetraogallus spp.), the snow partridges inhabit less bare and stony ground (1,2).

Soils are of the mountainous type with stony lithosols predominating. Tundra and black earth soils are also in evidence, depending upon climate, vegetation, elevation, and latitude (4).

Climate: The ranges of the two subspecies of snow partridges include the extreme subpolar climatic region where temperatures for at least 5 months are under 30° F. Not more than 2 months are above 60° F. (6). Maximum precipitation in the ranges falls in the summer months. Average annual precipitation varies between about 6 and 39 inches (5). These partridges occupy rather open snowless areas; in their ranges snow can be expected above 6,000 feet in winter. Records from weather stations in the ranges of snow partridges were not available, so several weather stations were selected at low elevations, often as much as 5,000 feet below optimum occupied zones (4,5). Consequently, temperatures indicated in the following table are probably warmer than those actually experienced by the snow partridges. This may be particularly true for habitats of the eastern snow partridge where it is assumed that temperatures noted in the tables probably are 15 to 20 degrees warmer than in the actual regions occupied by this subspecies. Climatic figures in the table for the western snow partridge are estimated to be 12 to 15 degrees warmer than those in the subspecies' range.

<u>Subspecies</u>	<u>Temperatures (° F.)</u>				<u>P r e c i p i t a t i o n (inches)</u>			
	<u>Jan.</u>		<u>July</u>		<u>Average monthly by seasons</u>			
	<u>Average daily</u>		<u>Average daily</u>		<u>Average</u>	<u>Breeding</u>	<u>Rearing</u>	<u>Wintering</u>
	<u>Max.</u>	<u>Min.</u>	<u>Max.</u>	<u>Min.</u>	<u>Annual</u>	<u>Mar.-May</u>	<u>June-Aug.</u>	<u>Dec.-Feb.</u>
Western Snow Partridge								
Highest (a)	47	36	87	64	119.5	4.8	26.6	3.2
Lowest (a)	17	8	66	49	3.3	0.2	0.4	0.2
Avg. 7 sta.	37	19	74	54	38.6	2.4	7.3	1.2
Eastern Snow Partridge								
Highest	33	12	92	68	14.1	0.5	3.0	0.3
Lowest	22	-3	84	61	3.0	0.1	0.3	0.1
Avg. 4 sta.	29	6	88	63	5.9	0.3	1.2	0.2

(a) The figures do not always represent the same stations.

Temperatures in the United States which might be considered comparable to those in the range of the western snow partridge are in or adjacent to the alpine zones of the Rocky Mountains from New Mexico and Arizona northward and in parts of



the alpine zone from the Sierra Nevadas north through the Cascades of Oregon and Washington. Alaska might have several areas of comparable temperatures. In general, climate in the eastern snow partridge range is not analogous to that found in mountains of northern United States.

Food: Food of the snow partridges consists of lichens, moss, seeds, berries and green vegetation. Insects are taken to some extent and grit is taken in quantity. Present information indicates they apparently do not "bud" (1,2).

Behavior and general habits: Snow partridges are gregarious, collecting in family parties of 6 to 8 adults and young, and in coveys of a dozen to 30 or more birds (1,2). When coveys are first disturbed the birds flush silently, then scatter with a great whirring and clapping of wings. Where not overly persecuted they are said to be sometimes quite tame (1). Good numbers of snow partridges were found in 1969 around 11,000 feet in Ladakh and they were not shy although they had not been previously disturbed by humans (6).

The breeding season extends from May to July. The birds generally move to elevations higher than those occupied during the winter. The male is believed to be monogynous and assists in tending the chicks (1). The nest is a scrape on the ground, sometimes well lined with moss and leaves, placed under a rock or bush on a precipitous hillside. It is usually well concealed but cock birds tend to reveal the nest area by calling and strutting in its near vicinity (1,2). Clutches average 3 to 5, but occasionally 6 or 7 eggs are laid. The eggs are creamy ground color to a dull buff, speckled with light reddish spots scattered fairly thickly over the entire surface. Sizes for 50 eggs averaged 54.6 mm. x 35.0 mm. (2).

Calls of the snow partridges are loud harsh whistles, expressing either fear or anger, or are merely calls to one another when separated. The breeding call is said to be similar to that of the gray francolin of the Indian plains (1,2).

Abundance: Snow partridges are considered common although local in occurrence over a rather narrow altitudinal zone extending for extensive distances from eastern Afghanistan to western China. In their western ranges they are confined to a narrow strip of country along the first two or three outer ranges of the Himalayan Mountains. It is possible that in eastern Tibet the snow partridge occupies an area larger than is indicated on the distribution map (2).

Interbreeding and competition: No reports indicate that snow partridges interbreed with other game birds. No serious competition has been observed between these partridges and Tibetan sandgrouse, chukars, hill partridges, or snowcocks that overlap in range (1,2).

Relation to agriculture: The snow partridges seldom are associated with agriculture, and no damage by them to crops has been reported.

Sporting characteristics: The precipitous country in which snow partridges live makes them both difficult and challenging to hunt. According to one observer, they tend to be tame where not hunted (2). One report relates that a covey was approached time and again by hunters until it was eliminated (1). It was suggested that because of this tameness and their reputation for being one of the finest of Indian game birds for the table, their numbers have declined considerably in the western range of the Himalayan Mountains (1,2). Hunting in 1969 resulted in good numbers of snow partridges being taken in the Ladakh region of India be-





tween 11,000 and 14,000 feet (6).

When flushed, snow partridges fly straight up for a couple of yards, then downward and away with a fast, strong flight, the covey scattering (1,2).

Introductions and propagation: Available records do not indicate that snow partridges have been introduced to new areas outside their native ranges, nor that they have been propagated.

#### About snow partridges, snowcocks and monal partridges

These three groups of game birds in the subfamily Phasianinae inhabit alpine zones above the forests in mountainous areas. Snow partridges (Lerwa) are found in grasslands and brushy areas from Afghanistan to Sikkim and western China. The snowcocks (Tetraogallus), represented by 5 species, are located in zones of high elevation with sparse vegetation from Central Asia, the Caucasus, Asia Minor, and the Himalayan Mountains to northwestern China and Mongolia. They are known locally as "ramchukar" or "kingchukar." The two species of monal partridges or pheasant-grouse (Tetraophasis) are alpine inhabitants of the mountains of eastern Tibet and western China. They are larger and darker than the snow partridges or snowcocks and are pheasant-like in appearance. The monal partridges thrive in woody ravines and slopes above the main forest. Climates for the three groups range from semiarid continental to extreme subpolar. Snow is common at the upper elevations and the birds move altitudinally during the winter and breeding seasons. All are considered difficult but challenging to hunt and their flesh has been ranked among the very best of the game birds of the world for eating.

#### References:

1. Ali, Salim and S. D. Ripley. 1969. Handbook of the Birds of India and Pakistan. Oxford University Press, Bombay. 345 p.
2. Baker, E. C. S. 1928. The Fauna of British India. Birds, Vol. V. Taylor and Francis, London. p. 432-435.
3. Cressey, G. B. 1944. Asia's Lands and Peoples. McGraw-Hill Book Co., Inc. New York. 663 p.
4. Koeppe, C. E. and G. C. De Long. 1958. Weather and Climate. McGraw-Hill Book Co., Inc. New York. 341 p.
5. Meteorological Office. 1967. Tables of Temperature, Relative Humidity and Precipitation for the World. Publ. M. O. 617e, Part V. Her Majesty's Stationery Office, London. 126 p.
6. Mohite, S. A. 1971. Personal communication. Poona, India.
7. Peters, J. L. 1931. Check-List of Birds of the World, Vol 2. Harvard Univ. Press, Cambridge. p. 58-59.
8. Rand, A. L. and R. L. Fleming. 1957. Birds from Nepal. Fieldiana: Zoology, Vol. 41 (1). Chicago Natural History Museum, Chicago. p. 58.
9. Vaurie, Charles. 1965. The Birds of the Palearctic Fauna. Non-Passeriformes. H. F. and G. Witherby Ltd., London. 763 p.

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